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DALY, CROWLEY, MOFFORD & DURKEE, LLP
SUITE 301A
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EXAMINER
STEVENS, THOMAS H

ART UNIT	PAPER NUMBER
2123	

DATE MAILED: 10/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/068,119	PENA-MORA ET AL.	
	Examiner	Art Unit	
	Thomas H. Stevens	2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06/26/2006 & 07/19/2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *07/19/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-22 were examined.

Section I: Non-Final Rejection

Change of Inventorship

2. The change of ownership, as required by 37 CFR 1.48(a), submitted on 06/23/2006 to add inventors Michael Li, SangHyun Lee and Margaret Fulenwider is accepted.

Allowable Subject Matter

3. The indicated allowability of claim 17-22 is withdrawn in view of the newly discovered reference(s) to Park in view of Crampton. Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park, titled, "Robust Control of Cost Impact on Fast-Tracking Building Construction Projects" (hereafter Park) in view of Allweyer et al., "Model-Based Re-Engineering in the European Construction Industry" (1996) (hereafter Allweyer).

Park teaches dynamic planning (Park: pg. 25, 1st paragraph, last sentence) of a plurality of activies (Park: pg. 52, table 2) for construction projects (title); but fails to teach pre-structured processing in modeling.

Allweyer teaches a construction-based simulation modeling with pre-structured processing (Allweyer: pg.6, 2nd paragraph) procedures.

Park and Allweyer are analogous art since they both teach building construction simulation.

Therefore, it would have been obvious to one having ordinary skill in the art at he time the invention was made to utilize pre-structured model of Allweyer in the dynamic

planning methodology of Park because Allweyer teaches an efficient way to reduce the risks of BPR projects and to increase the quality of the results (Allweyer: pg.5, "Reference Models" section, 2nd paragraph) and for the faster development of new process structures, and software-specific models for matching them against the new process model, and selecting and customizing a software system that will support new processes (Allweyer: pg. 7, lines 5-7).

Claim 1. A dynamic planning (Park: pg. 25, 1st paragraph, last sentence) method comprising: generating a project list with a plurality of activities (Allweyer: pg.6, 2nd paragraph); selecting two or more activities from a plurality of activities (examples, Park: pg. 52, table 2) within a project plan; generating a time precedence relationship (examples, Park: pg. 58, figure 27-1) between the selected activities structuring the two or more activities, with each a respective activity pre-structured (Allweyer: pg.6, 2nd paragraph) process model; structuring the time precedence (examples, Park: pg. 58, figure 27-1) relationships with an activity relationship pre-structured (Allweyer: pg.6, 2nd paragraph) model associating an activity characteristics value with at least one of the activity pre-structured (Allweyer: pg.6, 2nd paragraph) process models; associating an activity relationship value with the activity relationship pre-structured (Allweyer: pg.6, 2nd paragraph) model to provide a dynamic planning (Park: pg. 25, 1st paragraph, last sentence)method (DPM) project planning model; and dynamically adjusting the DPM project planning model to provide a DPM project plan (Park: pg. 40, 1st paragraph).

Claim 2. The method of claim 1, wherein associating an activity characteristics value with the at least one of activity pre-structured (Allweyer: pg.6, 2nd paragraph) process models comprises: providing a user-defined activity reliability value for at least one of the two or more activities (examples, Park: pg. 52, table 2); and associating the activity reliability value with the activity relationship pre-structured (Allweyer: pg.6, 2nd paragraph) model.

Claim 3. The method of claim 1, wherein associating an activity characteristics value with at least one of the activity pre-structured (Allweyer: pg.6, 2nd paragraph) process models comprises: providing a user a user-defined production type value for at least two of the one or more activities; associating the production type value with at least one of the activity pre-structured (Allweyer: pg.6, 2nd paragraph) process models.

Claim 4. The method of claim 1, wherein associating an activity relationship value with the activity relationship pre-structured (Allweyer: pg.6, 2nd paragraph) model comprises: providing a user-defined time precedence relationship (examples, Park: pg. 58, figure 27-1) between the two or more activities; and associating the time precedence relationship (examples, Park: pg. 58, figure 27-1) with the activity relationship pre-structured (Allweyer: pg.6, 2nd paragraph) model.

Claim 5. The method of claim 1, wherein associating an activity relationship value with the activity relationship pre-structured (Allweyer: pg.6, 2nd paragraph) model

comprises: providing a user-defined sensitivity value for the time precedence relationship; and associating the sensitivity value with the activity relationship pre-structured (Allweyer: pg.6, 2nd paragraph) model.

Claim 6.The method of claim 1, further comprising: associating a policy value with at least one of the activity pre-structured (Allweyer: pg.6, 2nd paragraph) process models.

Claim 7. The method of claim 6, wherein associating the policy value with at least one of the activity pre-structured (Allweyer: pg.6, 2nd paragraph) process models comprises: providing the policy value as a user-defined policy value; and associating the policy value with at least one of the activity pre-structured (Allweyer: pg.6, 2nd paragraph) process models.

Claim 8. The method of claim 1, wherein dynamically adjusting the DPM project planning model (Park: pg. 40, 1st paragraph) to provide a DPM project plan comprises: automatically generating a reliability buffer (Park: pg. 54, line 4) in association the two or more activities to, wherein the reliability buffer (Park: pg. 54, line 4) has a duration value, an upstream (Park: pg. 33) time precedence relationship (examples, Park: pg. 58, figure 27-1) between the reliability buffer (Park: pg. 54, line 4) and an upstream (Park: pg. 33) activity, and a downstream time precedence relationship (examples,

Park: pg. 58, figure 27-1) between the reliability buffer (Park: pg. 54, line 4) a downstream activity (Park: pg. 33), to provide the DPM project plan .

Claim 9. The method of claim 8, wherein the downstream time precedence relationship (examples, Park: pg. 58, figure 27-1) is finish to start with no lag or lead.

Claim 10. The method of claim 8, wherein the automatically generating the reliability buffer (Park: pg. 54, line 4) comprises: associating the activity characteristics value, at least one of the activity relationship value, the activity pre-structured (Allweyer: pg.6, 2nd paragraph) process models, and with the activity relationship pre-structured (Allweyer: pg.6, 2nd paragraph) model.

Claim 11. The method of claim 10, wherein the automatically generating the reliability buffer (Park: pg. 54, line 4) further comprises: associating a policy value with at least one of the activity pre-structured (Allweyer: pg.6, 2nd paragraph) process models, and with the activity relationship pre-structured (Allweyer: pg.6, 2nd paragraph) model.

Claim 12. The method of claim 8, further comprising: selecting an updated (Park: pg. 63, discussing the changes of construction thus changing the simulation) activity; providing at least one of updated (Park: pg. 63, discussing the changes of construction thus changing the simulation) activity characteristics value, updated (Park: pg. 63, discussing the changes of construction thus changing the simulation) activity relationship value, or updated (Park: pg. 63, discussing the changes of construction

thus changing the simulation) policy value ("overtime policy" Park: pg. 45, section 5.4.4) associated with the updated (Park: pg. 63, discussing the changes of construction thus changing the simulation) activity, to provide an updated (Park: pg. 63, discussing the changes of construction thus changing the simulation) DPM project planning model; and dynamically updating the DPM project planning model to provide an updated (Park: pg. 63, discussing the changes of construction thus changing the simulation) DPM project plan .

Claim 13. The method of claim 12, wherein dynamically updating the DPM project planning model to provide an updated (Park: pg. 63, discussing the changes of construction thus changing the simulation) DPM project plan comprises: automatically generating an updated (Park: pg. 63, discussing the changes of construction thus changing the simulation) reliability buffer (Park: pg. 54, line 4) in association with the updated (Park: pg. 63, discussing the changes of construction thus changing the simulation) activity, wherein the updated (Park: pg. 63, discussing the changes of construction thus changing the simulation) reliability buffer (Park: pg. 54, line 4) has an updated (Park: pg. 63, discussing the changes of construction thus changing the simulation) duration value, an updated (Park: pg. 63, discussing the changes of construction thus changing the simulation) upstream (Park: pg. 33) time precedence relationship (examples, Park: pg. 58, figure 27-1)between the updated (Park: pg. 63, discussing the changes of construction thus changing the simulation) reliability buffer (Park: pg. 54, line 4) and an upstream (Park: pg. 33) activity, and an updated (Park: pg.

63, discussing the changes of construction thus changing the simulation) downstream time precedence relationship (examples, Park: pg. 58, figure 27-1) between the updated (Park: pg. 63, discussing the changes of construction thus changing the simulation) reliability buffer (Park: pg. 54, line 4) and an downstream activity (Park: pg. 33), to provide the updated (Park: pg. 63, discussing the changes of construction thus changing the simulation) DPM project plan .

Claim 14. The method of claim 13, wherein automatically generating the updated (Park: pg. 63, discussing the changes of construction thus changing the simulation) reliability buffer (Park: pg. 54, line 4) comprises: associated the updated (Park: pg. 63, discussing the changes of construction thus changing the simulation) activity characteristics value, the updated (Park: pg. 63, discussing the changes of construction thus changing the simulation) activity relationship value, at least one of the activity pre-structured (Allweyer: pg.6, 2nd paragraph) process model, and the activity relationship pre-structured (Allweyer: pg.6, 2nd paragraph) model.

Claim 15. The method of claim 14, wherein automatically generating the updated (Park: pg. 63, discussing the changes of construction thus changing the simulation) reliability buffer (Park: pg. 54, line 4) comprises further comprises: identifying a similar activity corresponding to the updated (Park: pg. 63, discussing the changes of construction thus changing the simulation) activity, having a similar activity characteristics value, a similar activity relationship value, and a similar policy value, ("overtime policy" Park: pg. 45,

section 5.4.4) and a similar activity pre-structured process(Allweyer: pg.6, 2nd paragraph) model, based upon a similarity criteria; associating the similar activity characteristics value, the similar activity relationship value, the similar activity pre-structured process (Allweyer: pg.6, 2nd paragraph) model, and the relationship pre-structured (Allweyer: pg.6, 2nd paragraph) model associated with the similar activity; and adjusting the updated (Park: pg. 63, discussing the changes of construction thus changing the simulation) duration value, the upstream (Park: pg. 33) time precedence relationship (examples, Park: pg. 58, figure 27-1)and the updated (Park: pg. 63, discussing the changes of construction thus changing the simulation) downstream time precedence relationship (examples, Park: pg. 58, figure 27-1) of the updated (Park: pg. 63, discussing the changes of construction thus changing the simulation) reliability buffers (Park: pg. 54, line 4).

Claim 16. The method of claim 15, wherein the similar activity has the same activity characteristics values, the same activity relationship values, and the same policy values as the updated (Park: pg. 63, discussing the changes of construction thus changing the simulation) activity ("overtime policy" Park: pg. 45, section 5.4.4).

8. Claims 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park, titled, "Robust Control of Cost Impact on Fast-Tracking Building Construction Projects" (hereafter Park) in view of Crampton et al., (US Patent 6,415,196, hereafter Crampton)

Park teaches dynamic planning (Park: pg. 25, 1st paragraph, last sentence) of a plurality of actives (Park: pg. 52, table 2) for construction projects (title); but fails to teach a processor coupled to a data processor.

Crampton teaches manufacturing scheduling process with improved modeling (title) with processor coupled to a data processor (Crampton: column 23, lines 31-47 "program code and data to the main computer as well as workstations").

Both Park and Crampton are analogous art since they both teach simulation scheduling.

Therefore, it would have been obvious to one having ordinary skill in the art at he time the invention was made to utilize the event scheduling of Crampton in the dynamic planning methodology of Park because Crampton teaches methods to produce N units of a company's products, and to do that in most efficient, optimal manner (Crampton: column 3, lines 53-55).

Claim 17. A dynamic planning (Park: pg. 25, 1st paragraph, last sentence) apparatus comprising: a dynamic planning method (DPM) data processor that provides activity data that is a combination of policy data, ("overtime policy" Park: pg. 45, section 5.4.4) activity characteristics (examples, Park: pg. 52, table 2) data, and activity relationship data; and a DPM processor coupled to the DPM data processor (Crampton: column 23, lines 31-47 "program code and data to the main computer as well as workstations" with Park: pg. 25, 1st paragraph, last sentence) to process the activity data (examples, Park: pg. 52, table 2) to provide a DPM project plan.

Claim 18. The dynamic planning apparatus(Park: pg. 25, 1st paragraph, last sentence) of claim 17, wherein the DPM processor also provides one or more DPM performance profiles.

Claim 19. The dynamic planning(Park: pg. 25, 1st paragraph, last sentence) apparatus of claim 17, wherein the DPM data processor includes: a DPM policy data processor that provides the policy data("overtime policy" Park: pg. 45, section 5.4.4); and a DPM activity data processor, that provides the activity characteristics data and the activity relationship data.

Claim 20. The dynamic planning (Park: pg. 25, 1st paragraph, last sentence) apparatus of claim 19, wherein the DPM activity data processor includes: a DPM activity characteristics graphical user interface (GUI) (Crampton: column 23, lines 50-67) that provides the activity characteristics data; and a DPM activity relationship GUI (Crampton: column 23, lines 50-67) that provides the activity relationship data.

Claim 21. The dynamic planning (Park: pg. 25, 1st paragraph, last sentence) apparatus of claim 20, wherein the DPM activity data processor includes a dependency structure matrix GUI (Crampton: column 23, lines 50-67) for entry of the activity characteristics data and the activity relationship data (examples, Park: pg. 52, table 2).

Claim 22. The dynamic planning (Park: pg. 25, 1st paragraph, last sentence) apparatus of claim 21, further comprising: one or more conventional project planning models that provide conventional project plan data; and a data transfer processor coupled to the one or more conventional project planning models and further coupled to the DPM data processor (Crampton: column 23, lines 31-47 "program code and data to the main computer as well as workstations" with Park: pg. 25, 1st paragraph, last sentence) to receive the conventional project plan data from the one or more conventional project planning models and to provide formatted data to the DPM data processor.

Section II: Response to Applicants' Arguments

Specification/ Claim Objections

9. Applicants are thanked for addressing these issues. Objections are withdrawn.

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10. Applicants are thanked for addressing these issues. Based on the change of ownership, the Pena-Mora reference is withdrawn. However, based on a revamped search, a new ground of rejection is made in view of Park.

Citation to Relevant Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Hadavi et al., titled, "ReDS--a Dynamic Planning, Scheduling, and Control System for Manufacturing": teaches real-time factory scheduling, combining artificial intelligence and operation research for managerial needs.

Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Tom Stevens whose telephone number is 571-272-3715, Monday-Friday (8:00 am- 4:30 pm EST).

If attempts to reach the examiner by telephone are unsuccessful, please contact examiner's supervisor Mr. Paul Rodriguez 571-272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov.. Answers to questions regarding access to the Private PAIR system, contact the Electronic Business Center (EBC) (toll-free (866-217-9197)).

September 18, 2006

9/20/06
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